

REMARKS

Claims 1-28 and 30 remain pending in the instant application. Claims 1-28 and 30 presently stand rejected. Claims 1-6, 8-11, 13, 14, 17 and 19-28 are amended. Entry of this amendment and reconsideration of the pending claims are respectfully requested.

Claim Rejections – 35 U.S.C. § 112

Claims 1-9 and 19-27 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In the rejection, the Examiner states that it is not clear whether the host processor and the I/O processor are the same processor.

Applicants kindly direct the Examiner to Figure 1 of the drawings which shows host processor 12 as located on an example motherboard 32 and I/O Processor 41 located on circuit card 20. For further clarification, the Examiner is also directed to paragraphs [0018] and [0020] of the Specification for corresponding description.

Applicants note that the independent claims have been amended to remove the terms “host processor” and “input /output (“I/O”) processor.” In light of the amendments and the above clarification, Applicants respectfully request that the instant 35 U.S.C. § 112 rejections be withdrawn from claims 1-9 and 19-27.

Claim Rejections – 35 U.S.C. § 101

Claims 19-27 stand rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter. The Office Action mailed January 7, 2008 objects to the use of “[A]n article” in the preamble of independent claims 19 and 23. Applicants respectfully disagree, however, in order to expedite prosecution, Applicants have deleted “[A]n article” from claims 19 and 23 and the amended claims to recite “A tangible machine-readable storage medium having stored thereon ...”

Applicants therefore respectfully request that the instant 35 U.S.C. § 101 rejections be withdrawn from independent claims 19 and 23 and their corresponding dependent claims.

Claim Rejections – 35 U.S.C. § 103

Claims 1-28 and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kashima et al. (US 5,485,598) in view of Murty et al. (US Patent Publication US 2003/0084290 A1).

“To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. All words in a claim must be considered in judging the patentability of that claim against the prior art.” M.P.E.P. § 2143.03.

Amended independent claim 1 now recites, in pertinent part,

storing encrypted metadata for determining a configuration of a redundant array of independent disks (RAID) storage;
receiving a request to write data to one or more locations in the RAID storage;
encrypting, based upon at least one key, one or more respective portions of the write data to generate one or more respective portions of encrypted write data to be stored in the one or more locations of the RAID storage;
generating, based upon the one or more respective portions of the encrypted write data, check data to be stored in the RAID storage; and
selecting the one or more locations in the RAID storage for storing the one or more respective portions of the encrypted write data by **translating the one or more locations specified in the request into one or more physical or logical locations in the RAID storage based at least upon the stored encrypted metadata** so as to permit the one or more respective portions of the encrypted write data to be distributed among two or more storage devices comprised in the RAID storage.

Emphasis added. Applicants respectfully submit that the combination of Kashima and Murty fails to disclose, teach, or suggest, at least, the limitations of storing encrypted metadata for determining a configuration of a redundant array of independent disks (RAID) storage and translating the one or more locations specified in the request into one or more physical or logical locations in the RAID storage based at least upon the stored encrypted metadata as expressly recited in amended claim 1. The Examiner is directed to paragraphs [0037] and [0038] in the Specification for a description related to the above limitations. Encrypted metadata makes the metadata unintelligible to an intruder who may physically access and/or remove one or more of the storage devices 82.

Kashima is directed to a RAID system utilizing separate cache memories for the host system and the check data. Murty is directed to a distributed security architecture. In rejecting previous claim 8, the Examiner cites claims 1-19 and col. 2, lines 5-12 of Kashima for the element of teaching the storage of metadata and encrypting the metadata. *Office Action* mailed 1/708, page 8. However, these portions of Kashima disclose a memory device with a redundant disk array means and processing and cache memory components for storing old data of the cache memory, but fail to disclose any method of storing encrypted metadata. Applicants are unable to find any portion of Kashima that makes any reference to metadata let alone storing encrypted metadata.

Additionally, Kashima fails to disclose storing encrypted metadata for determining a configuration of a redundant array of independent disks (RAID) storage and translating the one or more locations specified in the request into one or more physical or logical locations in the RAID storage based at least upon the stored encrypted metadata.

Murty is directed to an encryption module for encrypting and decrypting data. Murty also fails to disclose storing encrypted metadata for determining a configuration of a redundant array of independent disks (RAID) storage and translating the one or more locations specified in the request into one or more physical or logical locations in the RAID storage based at least upon the stored encrypted metadata as expressly recited in amended claim 1.

Consequently, the combination of Kashima and Murty fails to teach or suggest all elements of claim 1, as required under M.P.E.P. § 2143.03. Independent claims 5, 10, 19, 23, and 28 include similar nonobvious elements as independent claim 1. Accordingly, Applicants request that the instant §103(a) rejections of claims 1, 5, 10, 19, 23, and 28 be withdrawn.

The remaining dependent claims are novel and nonobvious over the prior art of record for at least the same reasons as discussed above in connection with their respective independent claims, in addition to adding further limitations of their own.

Applicants note that dependent claim 4 as presently amended recites the limitation of decomposing the write data into one or more portions **before encrypting** the one or more respective portions of the write data wherein the one or more portions to correspond to one or more stripes to be written into the RAID storage. Applicants submit that neither Kashima nor Murty disclose, teach or suggest this limitation.

Accordingly, Applicants respectfully request that the instant § 103 rejections of dependent claim 4 and the remaining dependent claims be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, it is believed that the applicable rejections have been overcome and all claims remaining in the application are presently in condition for allowance. Accordingly, favorable consideration and a Notice of Allowance are earnestly solicited. The Examiner is invited to telephone the undersigned representative at (206) 292-8600 if the Examiner believes that an interview might be useful for any reason.



CHARGE DEPOSIT ACCOUNT

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a). Any fees required therefore are hereby authorized to be charged to Deposit Account No. 02-2666. Please credit any overpayment to the same deposit account.

Respectfully submitted,

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